

ABSTRACT

A coating apparatus and method are disclosed that applies a coating to a product in a uniform and controlled manner. The coating apparatus comprises a feeding stage, an optional pre-treatment stage, at least one coating stage and a finishing stage. The coating stage(s) comprise a coating material feeder and a coating device. The coating device includes an aperture conforming to the perimeter of a substrate to be coated in a first and second dimension. As the substrate passes through the aperture, coating material is applied in a uniform and consistent layer ranging from 0.001 inches to 0.250 inches. The coating material also back fills minor surface imperfections and blemishes on the substrate to achieve a consistent finish across the whole area where coating material is applied. The coating device includes first and second shell portions. The first shell portion has a concave surface surrounding the aperture portion. The concave surface allows for coating material to collect prior to deposition upon the surface of the substrate. The second shell has a substantially flat face and a mirror aperture that aligns with the aperture of the first shell. A groove is formed along the perimeter of the aperture to collect coating material for coating the object as it passes through the apertures of both shells.

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